

**Amendments to the Specification:**

Please replace paragraph 10 on page 5 with the following amended paragraph:

The cyclone type mist separator is an apparatus for removing small solid particles or droplets in gas stream using a centrifugal force. Schematic illustrations of the cyclone type separator are indicated in FIG. 2A and FIG. 2B. FIG. 2A is a plan view, and FIG. 2B is a side cross section. In accordance with the cyclone type mist separator 21, the gas containing mist is introduced into inside of the cyclone through the gas inlet 22 with a high speed. The mist introduced into the inside of the cyclone is driven in a direction toward outside by the centrifugal force, and collided with the inner wall 23 of the cylinder. The mist collided with the inner wall 23 is exhausted from a lower liquid waste outlet 24 at the bottom portion of the cylinder. The gas removed the mist is flowed upwards through the inner cylinder 26, and released from the upper gas exhaust outlet. The liquid contained in the gas flowed through the inner cylinder 26 is exhausted from the upper liquid outlet 25. The size of the cyclone (the size of the portion at the maximum diameter of the inner wall 23) is desirably decided depending on the diameter of the droplet to be removed. If the inner diameter of the gas inlet 22 is small and velocity of the gas at the inlet is fast, the centrifugal force becomes large, and small mist can be removed. For instance, in order to remove the mist of approximately 1  $\mu\text{m}$ , the diameter of the gas inlet is desirably made approximately 1 cm, and the gas velocity at the inlet is made approximately 20 m/sec. A high mist removal rate can be obtained by setting the condition in the range as above. Although the mist removal rate is increased as the

gas velocity is increased, pressure loss is also increased. The material of the cyclone is desirably vinyl chloride, acrylate resin, and the like, which are superior in corrosion resistance.

Please replace paragraph 15 on page 6 with the following paragraph:

The filter type mist separator catches the mist in the gas flow using a filter having many fine pores. A schematic cross section of the filter type mist separator is indicated in FIG. 3. FIG. 3 indicates an example, wherein two filters 32, 33 having different pore sizes each other are overlapped. In accordance with the filter type mist separator 30, the filters 32, 33 are provided at approximately middle portion in the cylinder, the gas is introduced into the cylinder from the bottom portion and exhausted from the top portion. The filters 32, 33 are fixed to the cylinder by the flange 35 via the packing 34. The liquid accompanied with the gas passed through the filter is exhausted to outside of the cylinder through upper liquid outlet 36.

Please replace paragraph 17 on page 12 with the following paragraph:

In the PFC decomposition tower, the catalyst and the reaction gas desirably heated by a heater 6 such as an electric heater and the like. The reaction gas exhausted from the PFC decomposition tower 1 is introduced into the cooling chamber 11, and cooled by water 10 sprayed from the spray nozzle. HF and the water soluble component in the gas passed through the cooling chamber are removed by absorbing into water 10 at the exhaust gas washing tower 13. Then, the

gas is introduced into the mist removal apparatus. In accordance with the present embodiment, packing material 12 such as an absorbing agent and the like is filled into the exhaust gas washing tower 13, in order to increase a contact efficiency of the gas with water. A cyclone type mist separating apparatus 21 is provided. The gas removed the mist is released into atmosphere as an exhaust gas 17 by sucking the gas with the blower 16. The waste water 20 absorbed HF and others at the exhaust gas washing tower 13 is stored in the storage tank 18 once, and released by the waste water pump 19. The waste water 20 can be made harmless by a ready-made waste water treating facility in the semiconductor factory. The mist separated by the cyclone can also be stored in the waste water tank. As shown in FIG. 1, the mist separating apparatus has a direct piping connection 62 from the lower liquid waste outlet to the storage tank and a direct piping connection 64 from the upper liquid waste outlet to the storage tank.

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**Amendments to the Drawings**

The attached replacement and the attached annotated sheet of drawings show changes to Fig. 1. The replacement sheet replaces the original sheet of drawings for Fig. 1. In Fig. 1, references numerals 62 and 64 have been added to indicate piping connections.

Attachment: Replacement Sheet

Annotated Sheet Showing Changes